Exhibit A

Claims:

1. RF excited gas laser comprising:

an elongated electronics compartment having elongated external fins; and

an RF power supply placed inside electronics compartment; and

a pair of endplates attached to the opposite ends of the electronics compartment; and

a sealed laser tube comprising of a metal tube having an external surface, a pair of endcaps at the opposite ends of the metal tube forming a vacuum envelope for containing a laser gas and at least one pair of elongated electrodes inside of the metal tube configured for coupling to said RF power supply through RF coupling means; and

a pair of laser resonator mirrors placed on the endcaps at the opposite ends of the tube forming a laser resonator aligned with the RF gas plasma discharge produced between said electrodes; and

a sheet-metal cover enclosing the laser tube and the electronics compartment forming a laser assembly having at least one intake opening and at least one exhaust opening for the cooling air to flow through the laser assembly; and

at least one fan placed at the intake opening of the laser assembly; and

wherein said laser tube is placed inside the laser assembly and is flexibly attached to the endplates allowing for cooling air flow to enter the laser assembly through the intake opening and to flow through the laser assembly over the external surface of the tube and over the external fins of the electronic compartment and then exit the laser assembly through the exhaust opening; and

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wherein said external surface of the laser tube is not in mechanical contact with any additional heat-sinks.

2. The laser of claim 1 wherein said RF coupling means comprise vacuum sealed RF electrical feedthrough connected to at least one electrode and coupled to said RF power supply.
3. The laser of claim 1 wherein said laser tube having square cross-section.
4. The laser of claim 1 wherein said external surface of the laser tube comprises elongated fins to facilitate heat transfer from the tube to the flowing air.
5. The laser of claim 1 wherein said electrodes inside laser tube are closely spaced to the walls of the tube to facilitate heat transfer from electrodes to the tube.